Remarks/Arguments

Allowable Subject Matter

Primary Examiner objected to Claim 2 as being dependent upon a rejected base claim, namely, Claim1, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Instead of rewriting Claim 2, Applicants have amended Claim 1 to include the limitations of Claim 2 and have cancelled Claim 2. Since Claim 2 would have been allowable if rewritten pursuant to Primary Examiner's instructions, Claim 1, which recites the same limitations as an allowable, rewritten Claim 2, is now in condition for allowance.

Objections to Claims 4, 6, and 9

Primary Examiner objected to Claims 4 and 6, because the term "device" lacks proper antecedent basis, and Claim 9 because it depends from itself. Applicants have cancelled Claims 4, 6, and 9.

Rejection of Claims 3-7 under 35 U.S.C. § 112, Second Paragraph

Primary Examiner rejected Claims 3-7 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicants have cancelled Claims 3-7.

Rejection of Claims 1, 8, and 10-18 under 35 U.S.C. § 103(a)

Primary Examiner rejected Claims 1, 8, and 10-18 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application No. 2005/005642 (Shibata et al.) alone or in view of U.S. Patent Application No. 2004/0065517 (Watson et al.). Applicants have amended Claim 1, as stated *supra*, and have cancelled Claims 8 and 10-18.

New Claims 19-38

Applicants have cancelled Claims 2-18 and have added new Claims 19-38. The invention, and limitations thereof, recited in Claims 19-38 generally correspond with the original claims, but have been reworded and reorganized for clarity. To aid the Examiner in the examination of these new claims, the following list of the new claims includes in italics the original claim to which each new claim corresponds and/or the relevant support from the specification.

Claim 19 (New): An apparatus for measuring feature widths on masks for the semiconductor industry, comprising:

a base frame;

a carrier plate retained in a vibrationally decoupled fashion in the base frame;

a mask comprising a surface;

an objective arranged opposite the surface of the mask;

a scanning stage operatively arranged on the carrier plate to carry the mask;

a device associated with the objective, operatively arranged to apply a liquid between the objective and the surface of the mask.

Claim 1 (Original) An apparatus for measuring feature widths on masks for the semiconductor industry, comprising a carrier plate that is retained in vibrationally decoupled fashion in a base frame; a scanning stage, arranged on the carrier plate, wherein the carrier plate carries the mask to be measured; an objective arranged opposite a surface of the mask; and a liquid is provided between the objective and the surface of the mask.

Applicants have added the limitation of "a device associated with the objective, operatively arranged to apply a liquid between the objective and the surface of the mask" to the original claim.

Claim 20 (New): The apparatus as recited in Claim 19 wherein the mask further comprises at least one measurement point on the surface, and the device is operatively arranged to apply the liquid exclusively onto the at least one measurement point.

Claim 3 (Original) The apparatus as defined in Claim 1, wherein the objective has an integral for applying the liquid exclusively onto at least one measurement point defined on the surface of the mask.

Claim 21 (New): The apparatus as recited in Claim 19 wherein the device comprises a precision metering nozzle.

Claim 2 (Original) The apparatus as defined in Claim 1, wherein a precision metering nozzle, which applies the liquid exclusively onto at least one measurement point located on the surface of the mask, is associated with the objective.

Claim 22 (New): The apparatus as recited in Claim 19 wherein the device is integral to the objective.

Claim 3 (Original) The apparatus as defined in Claim 1, wherein the objective has an integral for applying the liquid exclusively onto at least one measurement point defined on the surface of the mask.

Claim 23 (New): The apparatus as recited in Claim 22 wherein the device comprises a cylinder completely surrounding the objective and separated from the objective by a gap.

Claim 4 (Original) The apparatus as defined in Claim 3, wherein the device is embodied as a cylinder that completely surrounds the objective; and the cylinder is separated from the objective by a gap.

Claim 24 (New): The apparatus as recited in Claim 23 wherein the liquid is transportable through the gap.

Claim 5 (Original) The apparatus as defined in Claim 4, wherein the liquid is transportable through the gap to the measurement point.

Claim 25 (New): The apparatus as recited in Claim 22 wherein the objective comprises a circumference and the device comprises at least one conduit arranged coaxially with the circumference of the objective.

Claim 6 (Original) The apparatus as defined in Claim 3, wherein the device encompasses at least one conduit that is arranged coaxially with the circumference of the objective.

Claim 26 (New): The apparatus as recited in Claim 25 wherein the liquid is transportable through the at least one conduit.

Claim 7 (Original) The apparatus as defined in Claim 6, wherein the liquid is transportable through the one or more conduits to the measurement point.

Claim 27 (New): The apparatus as recited in Claim 26 wherein the device comprises three conduits.

Please refer to Fig. 5b and paragraph [0022] of the specification for support.

Claim 28 (New): The apparatus as recited in Claim 19 further comprising a special frame and a special peripheral seal, wherein the mask is arranged in the special frame and on the

special peripheral seal, and wherein the liquid applied to the surface is securely contained within the special frame.

Claim 9 (Original) The apparatus as defined in Claim 9, wherein the mask is placed in a special frame; and the mask rests on a special peripheral seal.

Claim 29 (New): The apparatus as recited in Claim 28 wherein the special seal comprises polytetrafluoroethylene.

*Please refer to paragraph [0023] of the specification which states, in part, "Seal **41** is made, for example, of Teflon® material." Teflon® is the trademark used in association with polytetrafluoroethylene.*

Claim 30 (New): The apparatus as recited in Claim 19 wherein the liquid comprises water.

Claim 11 (Original) The apparatus as defined in Claim 1, wherein the liquid is water.

Claim 31 (New): The apparatus as recited in Claim 19 wherein the liquid comprises oil.

Claim 12 (Original) The apparatus as defined in Claim 1, wherein the liquid is an inert oil.

Claim 32 (New): The apparatus as recited in Claim 19 wherein the objective is configured for wavelengths of the illuminating light smaller than 300 nm.

Claim 13 (Original) The apparatus as defined in Claim 1, wherein objective is configured for wavelengths of the illuminating light smaller than 300 nm.

Claim 33 (New): The apparatus as recited in Claim 19 wherein the objective is configured for wavelengths of the illuminating light smaller than 248 nm.

Claim 14 (Original) The apparatus as defined in Claim 13, wherein objective is configured for wavelengths of the illuminating light smaller than 248 nm.

Claim 34 (New): The apparatus as recited in Claim 19 wherein the objective is wetted with the liquid.

Claim 10 (Original) The apparatus as defined in Claim 1, wherein a front element of the objective is wetted with the liquid.

Claim 35 (New): An apparatus for measuring feature widths on semiconductor substrates, comprising:

a base frame;

a carrier plate retained in a vibrationally decoupled fashion in the base frame;

a semiconductor substrate comprising a surface;

an objective arranged opposite the surface of the semiconductor substrate;

a scanning stage operatively arranged on the carrier plate to carry the semiconductor substrate;

a device associated with the objective, operatively arranged to apply a liquid between the objective and the surface of the semiconductor substrate.

Claim 15 (Original) An apparatus for measuring feature widths on semiconductor substrates, comprising a carrier plate that is retained in vibrationally decoupled fashion in a base frame; a scanning stage, arranged on the carrier plate, wherein the carrier plate carries the semiconductor substrate to be measured; an objective arranged opposite a surface of the semiconductor substrate, wherein the wherein objective is configured for wavelengths of the illuminating light smaller than 300 nm; and a liquid is provided between the objective and the surface of the semiconductor substrate.

Applicants have added the limitation of "a device associated with the objective, operatively arranged to apply a liquid between the objective and the surface of the semiconductor substrate" to the original claim.

Claim 36 (New): The apparatus as recited in Claim 35 wherein the semiconductor substrate further comprises at least one measurement point on the surface, and the device is operatively arranged to apply the liquid exclusively onto the at least one measurement point.

Please refer to paragraphs [0011] and [0023]-[0025] for support.

Claim 37 (New): The apparatus as recited in Claim 35 wherein the objective is configured for wavelengths of the illuminating light smaller than 300 nm.

Please refer to original Claim 15 for support.

Claim 38 (New): The apparatus as recited in Claim 35 wherein the objective is configured for wavelengths of the illuminating light smaller than 248 nm.

Claim 16 (Original) The apparatus as defined in Claim 15, wherein objective is configured for wavelengths of the illuminating light smaller than 248 nm.

Claim 39 (New): The apparatus as recited in Claim 35 wherein the objective is wetted with the liquid.

Claim 17 (Original) The apparatus as defined in Claim 16, wherein a front element of the objective is wetted with the liquid.

Conclusion

Applicants respectfully submit that the present application is in condition for allowance, which action is courteously requested. The Examiner is invited and encouraged to contact the undersigned patent agent of record if such contact will facilitate an efficient examination and allowance of the application.

Respectfully submitted,

Andrew E. McLaughlin
Registration No. 58,271
CUSTOMER NO. 24041
Simpson & Simpson PLLC
5555 Main Street
Williamsville, NY 14221
Phone: (716) 626-1564
Fax: (716) 626-0366

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